

5/26/98

PC Code No: 128857

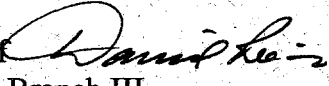
DP Barcode : D246011

ID# 98NY0012

MAY 26 1998

SECTION 18 REVIEW

SUBJECT: Section 18-Use of Myclobutanil on Cucurbits in New York (Long Island)

FROM: Daniel Rieder, Chief   
Environmental Risk Branch III  
Environmental Fate and Effects Division (7507C)TO: Robert Forrest, PM 05  
Registration Division (7505C)**A. Risk Characterization Summary**

The proposed use of myclobutanil on cucurbits in New York (Long Island) does not appear to pose adverse effects to birds, mammals, fish, or aquatic invertebrates. Risk to nontarget plants could not be assessed due to lack of data; therefore, risk to nontarget plants remains a possibility, which could be minimized by taking precautions to minimize spray drift. Risk to nontarget insects could not be assessed due to lack of data; therefore, risk to nontarget insects remains a possibility from the proposed use of myclobutanil. Myclobutanil is relatively persistent, with field half-lives of 92 to 292 days. The major route of dissipation is believed to be diffusion and dilution; myclobutanil appears to be resistant to most environmental breakdown processes.

Per the request by RD, EFED is not providing an additional drinking water assessment for this emergency exemption. A drinking water assessment has been previously provided to HED to cover this use of myclobutanil.

**B. Submission Purpose**

New York State has applied for a special exemption to use Nova 40W fungicide containing myclobutanil on a total estimated 1800 acres of cucurbit crops in two Counties on Long Island to treat powdery mildew (*Spaerotheca fuliginea*). The maximum estimate for total required active ingredient is 720 lb ai for the season. This is based on up to 4 applications of Nova 40 W at 2.5 oz. (0.1 lb ai) per acre applied by ground sprayer at the first sign of disease. Applications are to be made with a 10 day treatment interval, with a 1 day interval prior to harvest. Applications will be made between July and September, 1998.

**Product Information:****Product Name:** Nova 40 W manufactured by Rohm and Haas Co.**Active Ingredient:** Myclobutanil.....40%**Inert Ingredients**.....60%

2014115

## C. Environmental Assessment

### 1. Environmental Fate and Exposure Characterization

#### Environmental Fate Data:

- Stable to hydrolysis at pH 5, 7, and 9
- Stable to photolysis in water
- Photolytic soil half-life = 143 days
- Aerobic soil half-life = 66 days
- Anaerobic soil half-life = no degradation at 62 days
- Terrestrial Field Dissipation half-life = 292 days in sandy loam, and 92 days in loam soil.  
No apparent leaching was observed at either site.
- Solubility = 142 ppm
- Leaching: myclobutanil is moderately mobile ( $K_{ds}$  = 1.46 - 9.77 for adsorption and 0.47 - 4.18 for desorption in 5 soils), with a median  $K_{oc}$  = 581. The degradate (1,2,4-triazole) is considered highly mobile, with a median  $K_{oc}$  = 104 (average of 112).

### 2. Estimated Environmental Concentrations

#### Aquatic:

The aquatic EECs presented below were generated using the GENEEC computer program developed by EFED. This program uses a variety of environmental fate parameters in conjunction with the application rate to estimate the exposure to aquatic organisms from runoff.

#### RUN No. 1 FOR Myclobutanil INPUT VALUES

RATE (#/AC)	APPLICATIONS	SOIL	SOLUBILITY	% SPRAY INCORP
ONE(MULT)	NO.-INTERVAL	KOC	(PPM)	DRIFT DEPTH(IN)
.100( .370)	4	10	581.0	142.0
			1.0	.0

#### FIELD AND STANDARD POND HALFLIFE VALUES (DAYS)

METABOLIC DAYS UNTIL HYDROLYSIS	PHOTOLYSIS	METABOLIC COMBINED
(FIELD) RAIN/RUNOFF (POND)	(POND-EFF) (POND)	(POND)
129.00	0	N/A
.00-	.00	.00
		*****

#### GENERIC EECs (IN PPB)

PEAK	AVERAGE 4	AVERAGE 21	AVERAGE 56
GEEC	DAY GEEC	DAY GEEC	DAY GEEC
6.92	6.81	6.27	5.52

## Terrestrial

The proposed application rate is 0.1 lb ai/acre, with 4 applications at 10-day intervals. Applying one application at 0.1 lb ai/acre to mammal and bird food items would result in residue levels that would not be expected to exceed a maximum of 24 ppm (short grass). The mean residue levels on short grass would be about 8.5 ppm following one application of 0.1 lb ai/acre. With multiple applications (4), the residues of myclobutanil may build up on food items.

	Peak residue* on short grass unlikely to exceed	Approximation of average residue* on short grass
0.1 lb ai/acre X 4 applications at 10-day intervals	91 ppm	58 ppm
* Over 40 days, assuming a half-life of 192 days (arithmetic average of 92 and 292 from terrestrial field dissipation testing)		

Note that residue levels on other food items such as forage, seeds or fruit would be lower.

### 3. Ecological Toxicity Data Summary

The following toxicity data has been reviewed in conjunction with registration of myclobutanil.

#### Terrestrial Wildlife Toxicity Data

Common Name	%AI	Toxicity	NOEL	EPA-ID	CATEGORY
Bobwhite Quail	84.5	LD <sub>50</sub> 510 mg/Kg		0144286	C
Bobwhite Quail	84.5	LC <sub>50</sub> >5000 ppm		0144287	C
Mallard Duck	84.5	LC <sub>50</sub> >5000 ppm		0144287	C
Bobwhite Quail	94.2	LOEC >260 ppm	260 ppm	43087901	S
Mallard Duck	94.2	LOEC >260 ppm	260 ppm	43087902	S
Laboratory rat	91.9	Acute oral LD50=1360 g/kg		006370	C
Laboratory rat	84.5	2-gen. Repro LOEL=1000 ppm	200 ppm	004936	C
Laboratory rat	84.5	2-gen. Systemic LOEL=200 ppm	50 ppm	004936	C

#### Aquatic Organism Toxicity Data

Common Name	%AI	Toxicity	NOEL	EPA-ID	Category
Bluegill sunfish	84.5	96 HR LC <sub>50</sub> =2.4 ppm		0144285	C
Rainbow trout	84.5	96 HR LC <sub>50</sub> =4.2 ppm		0141677	C
Water flea	84.5	48 HR EC <sub>50</sub> =11 ppm		0141678	C
Sheepshead minnow	93	96 HR LC <sub>50</sub> =4.7 ppm		42747903	C
Eastern oyster	93	96 HR EC <sub>50</sub> =0.68 ppm		42747901	S
Mysid	93	96-HR LC <sub>50</sub> = 0.24 ppm		42747902	C
Fathead minnow		Early life LOEC=2.2 ppm	0.98 ppm	0266119	S

#### 4. Hazard Assessment

##### Terrestrial Organisms

**Acute Risk:** The maximum expected residue of myclobutanil in the environment is not expected to exceed 91 ppm (short grass following 4 applications at 0.1 lb ai/acre; 10-day intervals, assuming a half-life of 192 days). Compared to the acute toxicity test results for birds and mammals, this suggests low potential for acute risk. Endangered mammal and bird species would not be at acute risk.

**Chronic Risk:** Mean residues of myclobutanil are not expected to exceed 58 ppm (over 40 days during 4 applications of 0.1 lb ai/acre at 10-day intervals assuming 192 day half-life). That does not exceed the avian reproductive NOEL (260 ppm) nor the rat 2-generation reproductive NOEL (200 ppm). It does barely exceed the rat 2-generation systemic NOEL of 50 ppm, however, the slight amount of exceedance suggests low potential for significant ecological impact. Mammals and birds, including endangered mammals and birds are not at risk from chronic effects.

##### Aquatic Organisms

**Acute:** The maximum aquatic FEC in a small pond adjacent to a treated field of ~7 ppb is significantly lower than all acute toxicity endpoints suggesting minimal acute risk to fish and aquatic invertebrates including endangered species.

**Chronic:** The long-term EECs in a small pond are all less than 7 ppb and much lower than chronic endpoints for fish and aquatic invertebrates suggesting very low potential for

chronic risk, including chronic effects endangered species.

**Hazard to Terrestrial Plants:**

No data on toxicity of myclobutanil to terrestrial species of plants has been reviewed to date. Therefore, no conclusions regarding possible hazard to these species groups can be made at this time.

**Hazard to Non-Target Insects Toxicity Data:** No data has been received for review by the Agency regarding toxicity to non-target insects. Therefore, no conclusions regarding possible hazard to these species groups can be made at this time.

**Endangered Species:** There are no endangered species concerns indicated for birds, mammals, fish, or aquatic invertebrates. Risk to nontarget plants and insects could not be assessed due to lack of data. There are no endangered or threatened insects in the counties where this use would occur (Suffolk and Nassau). There are two endangered plants in these counties, Seabeach Amaranth and Sandplain Gerardia. No data have been provided suggesting myclobutanil is a hazard to plants, however, until data are provided showing myclobutanil is not a hazard, the possibility of risk to endangered plant species cannot be precluded.

**D. Labeling Recommendations**

Section 18 Label

Do not apply directly to water, or to areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsates.

Product Label

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated.

If there are questions concerning this review, please contact Dan Rieder at 305-5314.